

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Original) An electronic control unit comprising:

a non-volatile memory, which allows electrical updating of data with a limitation in the number of times of data entry, for continuously storing continuous storage object data required to be stored continuously even when electrical power supply is stopped, wherein the continuous storage object data is increased or decreased in its value depending on a specified rule and is changed in its value by a positive number N at a maximum during a single operation period from power on to power off; and

a control means for executing, on finding that the value of the continuous storage object data is changed in its value by N during the single operation period, a write process to write the continuous storage object data thus changed in its value by N to the non-volatile memory, and for not executing the process to write thereafter the continuous storage object data which has been changed in its value only by N to the non-volatile memory during the same operation period.

2. (Original) The electronic control unit according to claim 1, further comprising:

a standby RAM supplied with an electric power for a continuous storage of data,
wherein the control means includes a periodical storage means for periodically
storing the continuous storage object data to the standby RAM during the operation
period until at least the data is entered to the non-volatile memory with the write process,
and

wherein the control means further includes a preliminary write implementation
means for writing the continuous storage object data, not yet entered to the non-volatile
memory with the write process during a preceding operation period, to the non-volatile
memory from the standby RAM when an electric power supply is turned on.

3. (Original) The electronic control unit according to claim 2, wherein the
control means further includes a determination means for determining whether the data in
the standby RAM is normal when the electric power supply is turned on, and for
inhibiting the operation of the preliminary write implementation means when the data is
determined to be abnormal.

4. (Original) The electronic control unit according to claim 1, wherein:
the electric power supply is made when a power supply switch is turned on or
when a switching means provided externally is turned on for a power supply;

the control means continues, when powered on and starts its operations, the operations even after the power supply switch is turned off by turning on the switching means for the power supply; and

the control means enters the continuous storage object data to the non-volatile memory and thereafter turns off the switching means, if the continuous storage object data which has been changed in its value only by N but is not yet entered to the non-volatile memory during the present operation period exists when the power supply switch is turned off.

5. (Original) The electronic control unit according to claim 1, wherein:

the electric power is supplied when the power supply switch is turned on or when a switching means for a power supply provided externally is turned on;

the control means continues, when powered on and starts its operations, the operations even after the power supply switch is turned off by turning on the switching means for the power supply; and

when the power supply switch is turned off, the continuous storage object data which is not yet entered to the non-volatile memory with the write process during the present operation period is entered to the non-volatile memory, and thereafter the switching means is turned off.

6. (Original) The electronic control unit according to claim 4, wherein:

the control means is provided to control an engine of a vehicle; and

the power supply switch is an ignition switch of the vehicle.

7-9. Cancelled.

10. (New) A method for updating a non-volatile memory, which allows electrical updating of data with a limitation in the number of times of data entry, for continuously storing continuous storage object data required to be stored continuously even when electrical power supply is stopped, said method comprising:

incrementing the continuous storage object data value depending on a specified rule that changes its value by no more than a maximum amount during a single operation period from power-on to power-off; and

on finding that the value of the continuous storage object data value has changed by said maximum amount during the single operation period, writing the changed continuous storage object data value to the non-volatile memory and not thereafter writing the changed continuous storage object data value to the non-volatile memory during the same operation period.

11. (New) A method as in claim 10 further comprising:

supplying a standby RAM with electric power for continuous storage of data,
periodically storing the continuous storage object data to the standby RAM during
the operation period until at least the data is written to the non-volatile memory, and
preliminarily writing the continuous storage object data not yet written to the non-
volatile memory during a preceding operation period to the non-volatile memory from the
standby RAM when an electric power supply is turned on.

12. (New) A method as in claim 11 further comprising:

determining whether the data in the standby RAM is normal when the electric
power supply is turned on, and

inhibiting said preliminarily writing step when the data is determined to be
abnormal.

13. (New) A method as in claim 10 wherein:

said writing step continues, when powered on and started, even after a first power
supply switch is turned off to enter the continuous storage object data to the non-volatile
memory and thereafter to turn off a second power supply switch if the changed
continuous storage object data has been changed by said maximum amount but is not yet
entered to the non-volatile memory during the present operation period when the first
power supply switch is turned off.

14. (New) A method as in claim 1 wherein:

said writing step continues, when powered on and started even after a first power supply switch is turned off to enter any continuous storage object data which has not yet been entered to the non-volatile memory during the present operation period.

15. (New) A method as in claim 13 wherein:

the storage object data is used to control an engine of a vehicle; and

the first power supply switch is an ignition switch of the vehicle.